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The Future of Nuclear Weapons and the Non-Proliferation Treaty

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THE FUTURE OF NUCLEAR WEAPONS AND THE NON-PROLIFERATION TREATY

by Paul Boren

Executive Summary

Over the next twenty years, nuclear weapons will decline in importance as defensive systems are introduced and the former Soviet Union disarms. The United States has a vested interest in reducing the number of nuclear weapons and keeping conflicts at the conventional level. A robust ballistic missile defense coupled with approximately 500 tactical and strategic weapons should be sufficient for the year 2012. The Nuclear Non-Proliferation Treaty (NPT) offers the best mechanism for reducing nuclear weapons. Specific recommendations are given to bolster the NPT to oversee United States and Russian reductions to a national limit of 500 warheads each.

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THE FUTURE OF NUCLEAR WEAPONS AND THE NON-PROLIFERATION TREATY

by Paul Boren

INTRODUCTION

For the last forty-six years the world lived in fear of nuclear weapons. Their use was tightly held among the two superpowers and up to six lesser powers. The Cold War is now over and the arsenal of nuclear weapons will soon seem unnecessary and obsolete in light of the reduced threat and the advent of sophisticated conventional munitions. The United States is considering ways to reduce the world's nuclear arsenal, and the prohibit the spread of nuclear weapons.

This essay serves as a background paper for a nuclear non-proliferation simulation by the National Defense University's Institute for National Security Studies and the War Gaming and Simulation Center. It will argue that over the next twenty years our nuclear weapons will steadily decline in importance and should be reduced; traditional arms control agreements are largely outdated but the Nuclear Non-proliferation Treat (NPT) offers the best mechanism for collectively reducing the number of nuclear weapons; and proposes amendments to the NPT to elevate it to an effective instrument for controlling nuclear weapons.

This paper will examine the following questions in sequence:

- 1) What will be the future value and function of nuclear weapons to the United States and the world?

- 2) What kind of nuclear force do we envision twenty years from now?
- 3) How can we use international arms agreements to achieve our objectives?
- 4) How can we implement these objectives through the Nuclear Non-Proliferation Treaty (NPT)?

THE FUTURE VALUE AND FUNCTION OF NUCLEAR WEAPONS

Nuclear weapons will remain the most destructive weapon in the world for the next twenty years. No high technology weaponry will replace its awesome, brute force. However, Americans will find this destructive power impractical for several reasons.

First, America's political leadership prefers neat, precise attacks on clearly defined political/military targets. They want to minimize collateral damage, particularly to civilian personnel. But, the world is getting too crowded for nuclear weapons. Many of the viable targets for nuclear weapons are located in the heart of the enemy's metropolis.

Second, most of America's wars are declared against the political leaders of a nation, not against its people. Dropping atomic bombs invalidates this philosophy. The moral high ground is lost as soon as the button is pushed.

Third, the financial justification for the weapons evaporated with the Soviet threat. For years, nuclear weapons provided a cheap defense. The conventional clout of the Soviet Army made a non-nuclear defense unaffordable for America. Moreover, the sheer

size of the Soviet Army made it a classic target for tactical nuclear weapons. Now, however, the Soviet Army is history and high technology makes a conventional defense viable for any opponent in the near future. Our nuclear arsenal and its support structure are now a cost burden, too expensive to maintain or dismantle.

Fourth, the two major justifications for a American nuclear response, massive Soviet conventional or nuclear attacks, are no longer considered likely.¹ The collapse of the Soviet Army and decline of its industrial complex alters the American nuclear war fighting strategy. Many of our weapons were dedicated to meeting a massive ground attack in Europe. This fear is now a part of history. Moreover, the old Soviet command structure is gone, and it is unclear what the new structure is (let alone if we should target it). If the conventional targets are no longer of strategic importance, the target list would shrink dramatically.

The second justification was the Soviet nuclear forces, capable of a first strike. But as the Director of the Central Intelligence Agency, Robert Gates, said in December 1991:

Earlier, we had judged that the Soviets would preserve and protect their strategic programs, because of their symbolic importance as much as their deterrent value. But it is increasingly hard to see how Russia or any other republics with nuclear strategic weapons will be able to continue the modernization effort--or even why they would want to, given

¹Aspin, Les Rep. "from Deterrence to Denuking: Dealing with Proliferation in the 1990s" a speech before the Paul Nitze School of Advanced International Studies on February 18, 1992.

the rapid dissipation of tensions with the West.²

At this point, the Russians plan to have all the former Soviet tactical weapons on their soil by July 1992, with the goal of eliminating most of them. Ukraine wants to eliminate its strategic systems by 1994, with Belarus and Kazakhstan following suit by 1999.³ Even if the Russians retain their strategic weapons, they will need to invest scarce additional funds to improve their weapons' guidance and decoys to avoid obsolescence when America develops a defensive system.

Finally, from a strategic and tactical point, the United States has a real interest in keeping a conflict nuclear free. The American military can dominate virtually any battlefield with conventional weapons. The United States would want to contain the conflict at the conventional level, so as to retain the initiative, control damage and determine the terms for peace. The escalation to nuclear weapons would create more problems than it would solve.

Within twenty years, America's nuclear weapons will become the military equivalent of chemical warfare, existing only to deter their use by the enemy. Chemical warfare is tactical in nature, limited to battles and rarely effecting the outcome of the war if both sides have them. Nuclear warfare is strategic because their use defines the course and results of the war.

Besides the declining strategic relevance of nuclear weapons, their delivery systems may become obsolete. America's investment

²IBID. p. 3

³IBID, p. 6.

in ballistic missile defense should make a sudden attack unfeasible. A robust ballistic missile defense system can eliminate most threats and reduce the number of retaliatory forces needed for deterrence. This is even more true if the Russians reduce their arsenals as pledged.

Moreover, it would be in America's interest to reduce its nuclear forces as it deploys a defensive system so as to assure the world of our desire to avoid nuclear war. The world would fear a large nuclear force coupled with a powerful defense. A sound defense with a limited nuclear force would be less threatening.

With the emergence of potential new nuclear powers, our old system of deterrence may need revising. We cannot depend on the balance of power and the fear of mutual devastation to preserve stability. As Les Aspin says:

Deterrence requires that adversaries be identified and that they behave rationally. These elements are present in the large majority of situations in which we might be militarily challenged in this new era, and we can therefore expect deterrence to work should those opponents have or acquire nuclear weapons. The absence of either one of these two factors, however, could remove the fear of retaliation on which deterrence depends.⁴

Aspin sees a fundamental change in nuclear threats to the United States, which are summarized below:

⁴IBID. p. 7.

THE OLD THREAT

Single Threat

Known

Rational USSR Actions

Large-scale/intentional

Deterrable

Accidental

THE NEW THREATS

Multiple Threats

Unknown

Non-Soviet/Non-rational

Small-scale, terrorist

Non-deterrable

Unauthorized⁵

In Aspin's eyes, the purpose of missile defenses, along with a good intelligence network and viable air and coastal defense, is to protect our country from these new threats.⁶

Missile defense systems have their critics. Most say they are too expensive to build and maintain. A ballistic missile defense system is costly, but it is a breakthrough technology that redefines the conflict. Some examples of breakthrough technologies in this century include aircraft, tanks, submarines, nuclear weapons, missiles, stealth, computer chips, and satellites. All were expensive to introduce at an effective level. But no world military power would be taken seriously without these technologies. Expense is an important factor when pursuing marginal gains, but it should not be a showstopper for breakthrough technologies.

Other critics will say that defensive systems will encourage adventurism and the use of nuclear weapons, that the shield will

⁵IBID. p. 9.

⁶IBID. p. 13. It should be noted that Aspin includes missile defenses as the primary part of a package that also includes offensive force reductions, a comprehensive test ban, an end to fissile missile production, and other initiatives.

embolden the United States to strike without fear of retaliation. However, if we voluntarily reduce our nuclear arsenal, we will also restrict our trump card, pushing us ever more into conventional force solutions. Some say the defensive system will create an arms race. But if we slash our offensive forces as we deploy our defenses, the rest of the world should not feel compelled to build their offensive or defensive systems. Opponents claim that a defensive system will foster instability because of the preponderance of power in America's hands. Instead, we could promote stability if we cut our offensive forces while extending the defensive umbrella to our allies, entering into agreements to shield them from attack. An effective system, using space based systems controlled from America with tactical defenses on allied soil, would discourage a regional nuclear power from escalating a conflict unless they had their own defenses. It also might persuade a country not to develop their own nuclear arsenal, since the weapon is of little military value without the means to deliver it.

A terrorist might find a way to deliver a warhead without a missile or aircraft, but there is little incentive when there are many more inviting and easier targets. America in 2012, like it is today, is vulnerable to attacks on its food, water, transportation, information and communication systems. Striking these areas with viruses and contaminates is much easier and more politically effective than a nuclear device.

OUR NUCLEAR FORCES IN 2012

Our nuclear forces in 2012 will need to strike any point on the globe. They will need to overcome the basic missile defense systems. They will need to be survivable from a surprise attack. In general, our technical requirements for nuclear arsenal in 2012 are the same as in 1992. Most of the missile systems are 1960s state of the art, but this should not be a problem if we reduce our inventory to only the most modern systems such as the Peacekeeper and Trident. In my view, we don't need an extensive modernization program with the exception of possible improvements in guidance and command and control.

America's biggest investment will be in ballistic missile defense, which could be operational for America and its alliance partners by 2012. If so, America faces little risk of surprise attack. America's nuclear policy in 2012 should be the same as today's: ensuring an attacker pays too high a cost for initiating a nuclear war; fostering nuclear stability; and maintaining a flexible response.⁷

This policy can be achieved with a smaller force if we develop a defensive system and the Commonwealth of Independent States reduces its arsenal as promised. With a ballistic defense system, we won't need a large force to ride out an attack. Nuclear stability can be achieved by reducing our arsenal and deploying a defense, while a larger arsenal with a defensive system is very

⁷Dick Cheney, Secretary of Defense, Annual Report to the President and Congress, (Washington, DC: US Government Printing Office, January 1991), p. 51.

threatening. Finally, the break-up of the Soviet Union and its eventual nuclear downsizing will simplify our operation plans, even as other nations develop nuclear arsenals.

America would need very few weapons, perhaps as few as 500. These weapons could be distributed in a triad of stealthy bombers for tactical missions, land based Icbm behind defense systems, and a small fleet of submarine based SLBMs as a reserve force. Most of the future tactical missions will be assumed by precise conventional munitions, leaving only a limited requirement for tactical nuclear weapons. The strategic ballistic missiles would carry only one warhead each so as to promote stability by minimizing the potential for a first strike. Using today's forces, a hypothetical strategic command would look like this:

<u>Delivery system</u>	<u>Warheads per System</u>	<u>Total Warheads</u>
100 ICBMs	1	100
32 B-2s	2	64
14 Ohio Class SLBMs	16	<u>336</u>
Total		500

Nuclear weapons, as Dean Rusk points out, do not go off by themselves. They are only detonated when other alternatives fail. And the primary way to render them unnecessary is to develop lasting peaceful relationships throughout the world.⁸ The Bush Administration has tried to develop lasting bonds with the Commonwealth of Independent States so the storehouse of weaponry

⁸Dean Rusk, "War and Peace in the Nuclear Age", PBS, 16 February 1992.

purchased in the Cold War can be discarded. While economic and personal links lead to lasting ties, the traditional methods of arms control should not overlooked.

INTERNATIONAL ARMS AGREEMENTS

The philosophic justification for arms control is that the process helps reduce tensions and financial expenses in peace, and minimizes damage if war should occur. But, as Collin Gray points out, arms control is a false panacea. He argues that when you need arms control the most, you are least likely to get it (when tensions are high, neither side will trust their rival to honor the agreements). When tensions are low, you don't need it because war is unlikely and arms negotiations are too tedious and time consuming. In either case, unilateral action is easier and as effective.⁹

The argument is true when tensions are high, but arms control when tensions are low can be very useful. Like mortgages, it is best to lock in a long term deal when the rates are low. Right now, the international tensions have never been lower. Now is the best time to agree.

Arms control agreements are generally divided into two categories: bi-lateral and multi-national negotiations. The two forms have different characteristics which make them both good and bad.

⁹Collin Gray, opening remarks at the "New Alternatives Workshop", Fairfax, VA, May 24, 1989.

Bi-lateral negotiations are focused at reducing tensions with one party over specific issues. They are usually very detailed and time consuming because both parties are taking risks and lack guarantees from other nations. Verification and compliance are the most important aspects because cheating gives a decided advantage to one party and can be worse than unilateral disarmament. With the latter you at least make the conscious risk assessment, with undetected treaty violations you are lulled into a false security and are prone to surprise.

Bi-lateral negotiations are dependent on long term stability by the parties, or at least a method of enforcing compliance. It is very difficult to negotiate with a constantly changing government. Usually, when a government changes, the parties pause to rethink their objectives. This is manageable if the change of power is stable. But with succession crisis where the military may decide the solution, negotiations are difficult, getting the new government to honor prior agreements is always tricky. It is usually successful if the United States has a strong moral case and can give solid incentives to comply. Many new regimes would love to thumb their noses at the United States, but might be reluctant to challenge world opinion by backing out of a multi-national agreement.

Multi-national negotiations were often regarded as forums for endless debate and little substantive agreement. It is impossible, some believe, for all parties to agree on tough issues, so they agree on inconsequential issues or on treaties with no mechanism

for compliance or monitoring. Some say the United States should not overly rely on multi-lateral negotiations because a dedicated opponent could deadlock the forum and undercut American objectives.

The major advantage to multi-national negotiations is the introduction of collective interests and mutual objectives. As Richard Nye points out, a nation may not agree to something being in their interest during a bi-lateral negotiation (e.g. why should I restrict my right to make nuclear weapons?), but agree to it in a multi-national setting if others go along with it (if we all sign, then my neighbors won't make nuclear weapons and I can rest easy).¹⁰

The recent multi-national treaty successes are really a reflection of the changed world. The Conventional Forces in Europe treaty actually prescribe troop levels above the current forces. The reality of the situation made it easy for all parties to "lock in" to the current low levels. Other multi-national arms control negotiations are not as easy. The Conference on Disarmament for Chemical Weapons has been dragging on despite President Bush's personal interest. The problem, in my view, is the availability of chemical weapons, their intermingling with the commercial sector, and their easy use make them inviting for a lesser power, while difficult to detect by the inspecting party.

Arms control, as we've known it for the last thirty years is now, is probably coming to an end. The negative experience of

¹⁰Richard Nye, "War and Peace in the Nuclear Age", PBS, February 16, 1992.

Soviet compliance with the SALT and ABM treaties led to tightly negotiated and very structured regimes, which took many years to conclude. Their rigid implementation and numerous details make wholesale revision unlikely. Renewing the detailed, time consuming negotiations is unlikely in this era of dramatic, daily change. The START treaty was agreed to before the fall of the Soviet Union, but the Commonwealth of Independent States will probably be unable to comply with its provisions for several years because of the cost and the internal troubles of the CIS. In my view, the treaty itself is no longer the best deal for the United States. Consequently, there is little chance it will be ratified.

The most successful multi-national treaty is the Non-Proliferation Treaty (NPT) of 1970. This old treaty is up for renewal in 1995, offering America an excellent opportunity to shape the future of nuclear weapons.

THE NUCLEAR NON-PROLIFERATION TREATY

The Nuclear Non-Proliferation Treaty (NPT) of 1970 is designed to prevent the spread of nuclear weapon technology while encouraging the nuclear weapon states to negotiate disarmament, and spreading the peaceful applications of nuclear energy. It was successful in 1970 because it offered something to virtually everyone, except those who wanted to develop nuclear weapons. The treaty was designed to last 25 years before a conference would be convened to decide its fate.

This NPT renewal conference is expected to begin in late 1992.

The NPT marked an historic agreement between the super-powers in the height of the Cold War. The renewal conference will test America's policies and leadership in the post Cold War era. Can the same principles that drove the world to support the NPT in 1970 still work in 1995?

The NPT of 1970 seeks to:

- 1) Stop the proliferation of nuclear weaponry and technology
- 2) Negotiate a halt to nuclear testing
- 3) Negotiate nuclear disarmament among the nuclear powers
- 4) Promote the peaceful use of nuclear technology

To accomplish this, the NPT members agree to:

Art. I Nuclear powers (NP) cannot give or sell weapons or technology to non-nuclear (NN) countries, or assist in the development of the technology.

Art II NN countries cannot receive or seek nuclear weapons/technology.

Art III Each signature must accept IAEA safeguards (inspections/seals/record keeping/ etc). NP cannot provide fissile material or technology to produce fissile material to NN countries.

Art IV Peaceful use of nuclear technology is encouraged.

Art V The peaceful use of nuclear explosives (e.g. building a canal) is encouraged and proliferated under international control.

Art VI All parties agree to participate at an early date in negotiations to end the nuclear arms race and to disarm under international control.

Art VII Nuclear free zones are permitted

Art VIII Amendments must be proposed by one-third the members, discussed and approved by one-half of the members. Each member must individually ratify the amendment before they are forced to comply. A review conference will be held every 5 years on the progress of the NPT towards achieving the 4 goals.

Art IX The NPT is open to all. A NP is defined as one who developed and tested a device prior to 1967.

Art X A signature may withdraw from NPT if they state in writing why the NPT jeopardizes their supreme interests.

"Twenty-five years after entry into force of the Treaty (i.e. 1995), a conference shall be convened to decide whether the Treaty shall continue in force indefinitely, or shall be extended for an additional fixed period or periods. This decision shall be taken by a majority of the Parties to the Treaty."

Art XI Distribution of copies and administrative details.

The NPT was a landmark in international negotiations because it established a firebreak on the spread of science's deadliest weapon. It also pledged the superpowers to disarm themselves. Its goal was to buy time for the world, and to a large extent it succeeded. Most of the world did not develop a weapon which could be achieved by any dedicated country with moderate means and talent. Iraq is the only certain violator of the NPT among the 141 members, though some suspect Iran, Algeria and North Korea. The world's other current or potential nuclear powers (France, China, Israel, India, Pakistan, South Africa, Brazil, and Argentina) never joined the NPT, but all are considering and some are inviting

inspections. The consensus of the world was nuclear weapons were bad and every effort was made to restrict their proliferation.

The biggest shortcoming of NPT was not in restricting the membership of the nuclear community, but in shrinking the arsenals of the superpowers. Only recently have the superpowers pledged (but not implemented) reductions in nuclear weapons. The NPT's Article VI (calling for disarmament) and VII (calling for nuclear free zones) offer great potential for future negotiations. The NPT encourages members to discuss these issues while employing the offices and inspection capabilities of the International Atomic Energy Agency (IAEA). The signatories can use the NPT as a basis for collective agreements. This would be much simpler than starting out fresh on the subject in a newly named multi-national arms convention. While you inherit some baggage, you at least save organizational start-up time, as well as gaining a terms for discussion.

The United States Government (USG) interprets Article X to mean the treaty will continue in force unless the majority of the parties want to change it. The USG argues, with good reason, the treaty will not expire in 1995, and that the conference cannot address treaty revisions. Lewis Dunn believes the United States has the negotiating record to support an indefinite extension or an indefinite series of 25 year extension.¹¹

After talking to proliferation experts from State, the

¹¹Dunn, Lewis "The NPT on the Road to 1992", Prepared for Z Division Lawrence Livermore National Laboratory, May 23, 1991.

Department of Defense, the Joint Chiefs, the Intelligence Community, the Department of Energy, the Arms Control and Disarmament Agency, and even in the private sector, it appears most officials do not want to tinker with the NPT. The USG position is the NPT should continue as is, "More of the same".¹² It is, from their perspective, a limited treaty which is best left alone. The view may be called "if it ain't broke, don't fix it".

They are reluctant to undertake any bold nuclear initiatives in election years, and the world is changing too fast to act on many of the opportunities. Moreover, the NPT was never assigned the prestige of the START or other treaties. The personnel working it (usually as a collateral duty) could never take the initiative to invigorate the NPT into the prominent vehicle for arms reduction. As a result, the United States is unlikely to use the NPT as a mechanism to reduce weaponry.

Not everyone agrees with the USG, and some nations will undoubtedly use the Renewal Conference as an opportunity to challenge the existing regime at the Renewal Conference. One need only look at the most recent NPT conference to get a sense of the problems for 1995.

The United Nations, through the International Atomic Energy Agency (IAEA), sponsors a NPT review conference every five years. Each conference reflects world events at the time. In 1990, the review conference praised the NPT and called for its extension in

¹²Myron Goldman, conversation at Arms Control and Disarmament Agency, January 1992.

1995. The members acknowledged the NPT's role in preventing the spread of nuclear weapons, supported the IAEA safeguards program, called for more technical support to less developed countries on their peaceful programs, and supported the arms control progress of the United States and Soviet Union. Virtually all countries favored further testing limitations and most called for a Comprehensive Test Ban (CTB). The NPT Review Conference failed, however, to produce a consensus Final Document, causing the group to break up without any conclusion.¹³

The primary problem, according to Lewis Dunn, was the deadlock over nuclear testing. Mexico led the call for a CTB, saying it is the only true test of Article VI. The United States opposed the CTB, saying the negotiating record does not support it as a litmus test and that the Intermediate-Range and Shorter-Range Nuclear Forces (INF) Treaty showed progress on Article VI. The efforts at compromise failed because of procedural problems, personality conflicts, and a desire by developing countries to send a warning shot across the American bow on the issue. The CTB issue stymied the 1990 conference and is likely to dominate the 1995 Renewal Conference.¹⁴

Conversely, the call for CTB and arms control may fall by the wayside as some nations achieve the capability to build a nuclear weapon. The tide of opinion may change on the NPT, and the general agreement on non-proliferation might shift. The desire to acquire

¹³Dunn, pp. 1-3.

¹⁴IBID.pp. 7-11.

nuclear weapons may increase in the near future for the following reasons:

- 1) The near nuclear states are approaching their goal, prompting others to arm as a means of deterrence. Iran, for example, is within missile range of four potential nuclear states plus a half dozen former Soviet republics.
- 2) The end of the Cold War changed the nice nuclear order of battle that provided an umbrella to any interested nation. Once American leaders pledged to respond in kind to nuclear attacks on our allies. Now our resolve is weakening (and we cannot currently offer a defensive shield) as the number of potential attackers to our allies increases.
- 3) Iraq's success in skirting the rules of the NPT is a good example for other potential cheaters. Iraq imported engineering talent and equipment to build a technology base with multiple uses (including nuclear), and then developed the final nuclear weapon complex under tight security with domestic talent. The IAEA inspectors only visited declared, peaceful facilities prior to May 1991. Eventually they gained access to other facilities, only to discover one of the most advanced nuclear complexes in the world.¹⁵
- 4) The collapse of the USSR may prompt the sale of

¹⁵Lally, Richard, UN Inspector, Comments made following a speech at the Industrial College of the Armed Forces, November 4, 1991.

complete systems, expertise and technology by their military or nuclear scientists.

5) The abundance of missile delivery systems, coupled with the shortage of missile defense systems, make even a small inventory of weapons militarily worthwhile.

6) Nuclear weapons provide diplomatic prestige and national security disproportionate to their cost. The Permanent Five of the United Nations retain their seats, in my opinion, not because of their status as the victors of World War II, but because they have nuclear weapons that can strike beyond their continent. Their diplomatic veto is a reflection of their military veto over world events.

7) The hurdles to developing a weapon are slowly being reduced by the spread of knowledge and the availability of basic technology. The principles of weapons ordnance are available at public libraries. Much of the technology is no longer unique to nuclear weapons.

The critics of NPT are often defined by their status as a nuclear power. Those that have a weapon want to strengthen the regime. Those that lack the weapon and want one, see the NPT as a vehicle to continue the status quo.

The United States, Britain and Russia would welcome tighter export controls on critical technology. Off the record, many United States officials challenge the effectiveness of

International Atomic Energy Agency. Historically, the IAEA inspects facilities either on a routine scheduled trip (like a gas meter man) or when they have indication of a possible violation. The latter is scheduled with the concurrence of the suspect nation, and the inspectors only go to agreed to sites inside declared facilities. The inspectors are international in composition, and critics say they are more interested in preserving their relatively high paying jobs than in creating waves by aggressively searching for violations. Many nations claim such inspections would undermine their sovereignty (i.e. their right to have state secrets).

Some non-nuclear nations (and China) criticize the NPT as a tool to preserve the status quo. Critics contend the NPT seeks to restrict the non-nuclear nations in global and regional imbalances, while the superpowers continue to expand their arsenal. The superpowers failed to observe Article VI of the NPT to seek a means to disarm themselves. In their view, the only true proliferators have been the superpowers, whose arsenals expanded after 1970.¹⁶ at renewal conference will give both parties an opportunity to air their complaints. The pace of world events, such as a succession crisis in China or Korea, might prompt other issues.

CONCLUSIONS AND RECOMMENDATIONS

I've argued the United States will remain strong in the next

¹⁶Goldblat, Jozef. Non-proliferation: The why and the wherefore. London, Taylor & Francis, 1985. pp. 18-22, 52-54.

twenty years, that it faces few conventional military challenges, that we have an interest in keeping conflicts nuclear free, and that with a ballistic missile defense system we can safely reduce our nuclear arsenal. I believe the NPT offers the best mechanism for reducing the number of nuclear weapons, and the United States should overcome its bureaucratic inertia to bolster the treaty into an effective mechanism for arms reduction. To accomplish this, I make some specific recommendations to amend the treaty.

The United States Government (USG) should expand their thinking on the Renewal Conference; beyond a mechanism to get "more of the same" out of the NPT. The USG should utilize the motivations that spurred the original NPT and move to the next steps, creating national limits on nuclear weapons. As argued before, it is in the best interests of the USG to lower the world's nuclear arsenal and restrict the members of the nuclear club. The USG's arguments for restricting the club's membership are hollow as long as we retain arsenals in the thousands. It is easier to preach abstinence if you do not partake.

The NPT is an established system, with some flaws that make it fragile. Nevertheless, it is easier to build on the system than to invent one from scratch. The following recommendations are made to bolster the NPT so that it can successfully monitor the lower nuclear thresholds:

- 1) Establish a ceiling of 500 operational warheads per nation to be implemented within five years (i.e. the year 2000).

2) Storage of warheads beyond the 500 would be permitted for ten years (until 2010) while dismantlement facilities are built and operated. The bombs would be rendered inoperable while in storage, preferably by the removal of the nuclear fuel from the ordnance package. The fuel would be stored in separate containers.

3) All excess warheads after the fifth year would be accounted for in a data exchange with the IAEA. The warheads would be stored by the national government in approved IAEA containers with safeguards to allow for periodic short-notice inspection by the IAEA to detect if the containers were opened. The IAEA and the nation would have a dual key mechanism for access to the containers. Removal of the warhead would be done under the observation of the IAEA, and the use of the warhead would be reflected in the data exchange (e.g. used as a replacement for a warhead in the operational inventory).

These procedures (a natural affront to sovereignty) would give incentive to the country to begin their dismantlement process.

4) If another nation suspects a NPT member of cheating, they can request up to two annual short notice audits or inspections of the storage facilities. These will deter the country from using the easiest way of cheating, and they will have to develop elaborate (i.e. expensive) systems to circumvent them. To deter this, a nation can challenge a potential violator at a IAEA forum with any evidence gained from National Technical Means. The accused can either take

the challenger to the site in question or resolve it by other means to their mutual satisfaction.

5) The IAEA would build a nuclear fuel storage and reprocessing facility for two purposes. First, nations burdened by environmental restrictions (e.g. the USG) could dispose of formerly weapons grade uranium and plutonium in an IAEA burial site. Second, nations who cannot afford the reprocessing would "sell" it to the IAEA, who would reprocess it into lower grade fuel for commercial use. The nations giving up their fuel would gain hard currency as inducements to disarm, while avoiding the technical investments in plants and storage. The site would be selected, controlled, and run by the IAEA, and subject to up to two annual inspections by NPT members.

6) The IAEA safeguards and inspections staff would be expanded and given new, specified rights for short notice inspection and data gathering. Their safeguards budget would increase to provide more robust indicators of circumvention.

7) The IAEA would sponsor a public information service similar to the Commission on Human Rights. This "tattlers" service invites people to report suspicions and evidence passed by employees, reporters, citizens and intelligence services. The effect would be to bring public pressure and exposure on the problem by regularly

releasing all reports and inviting the suspected nation to disprove them with inspections or other data.

8) An immediate (i.e. after NPT renewal in 1995) threshold nuclear test ban of 1 kiloton, with a complete ban on nuclear testing within five years. The IAEA would be allowed to monitor the test sites with seismic systems and hydrodynamic detectors. The 2000 date would allow the USG to complete essential tests for ballistic missile defenses. At the same time, a threshold test ban prevents new members of the nuclear club from building or proof testing their weapons. If the weapons are not tested, they are not reliable agents of war. The same is true for the defensive systems, but these tests can be accomplished within the reduced threshold.

All members of the NPT would gain something. The non-nuclear members would see progress by the nuclear powers, while assuring themselves that their neighbors are not developing the bomb. The nuclear members would be able to limit the club's membership and arsenals, while finding ways to ease the problems of disarmament.

The expansion of the IAEA would be costly but worth it. The additional role of the IAEA is essential for the success of the proliferation and disarmament effort. If the IAEA budget doubled, it would not equal the funding for one of America's three major nuclear weapons R&D complexes. If the IAEA succeeds to even half of what might be anticipated, it would solve most of the problems

being studied at the three US complexes. The money would also employ many of the former Soviet scientists who might be tempted to sell their services to other nations with evil intent. All of this could be achieved by building on the existing NPT framework.

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